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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/717,284	11/19/2003	Robert C. Taft	08211/0200252-US0	7398
38845	7590	04/08/2005		
DARBY & DARBY P.C. P.O. BOX 5257 NEW YORK, NY 10150-5257			EXAMINER NGUYEN, HIEP	
			ART UNIT 2816	PAPER NUMBER

DATE MAILED: 04/08/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/717,284

Applicant(s)

TAFT ET AL.

Examiner

Hiep Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-40 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-40 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

The amendment filed on 02-04-05 has been received and entered in the case. New grounds of rejection necessitated by the amendment are set forth below.

Specification

The disclosure is objected to because of the following informalities: the disclosure “Together, these characteristic voltage drops $V_{Gs,p1}$, $V_{Gs,p2}$ are combined to maintain the voltage difference of boosted voltage V_{cv} at a substantially constant level” in page 7 is not relevant because the voltage (V_{cv}) varies with the value of the input voltage (V_{in}).

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 21-37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Correction and /or clarification is required.

Regarding claim 21, the recitation “a constant voltage difference circuit that is coupled to the control input node, wherein the constant voltage difference circuit is arranged to provide a control input voltage at the control input node such that a voltage difference between the control input voltage and an input voltage at the input node is substantially constant during the on condition” is indefinite because it is not clear which circuit is in the “on condition” i.e., the transmission gate, the switch circuit or the constant voltage different circuit.

Regarding claims 26, 27 and 39, the recitation “ wherein the constant voltage difference circuit is arranged to provide the control input voltage such that the control input voltage tracks the input voltage such that the voltage difference between the control input voltage and the input voltage is substantially constant, but such that the voltage difference varies slightly over temperature and process” is indefinite because of the following reasons:

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a. a voltage (the control input voltage) cannot **track** the other voltage such as the “input voltage”.

b. the voltage difference between the control input voltage and the input voltage is substantially constant (equal to two diode drops) when the input voltage (V_{in}) is zero volt. When the input voltage is high, transistor (840) is turned off and the control voltage (V_{gn}) is at a fixed value while the input voltage varies and can be at any value, thus the difference between the control input voltage and the input voltage is not substantially constant.

The same rationale is true for the recitation “... substantially constant over temperature and process” in claims 27 and 39.

Regarding claim 31, the recitation “the first transistor is an n-type transistor” is indefinite because it is misdescriptive. Figure 8 of the present application shows that the “first transistor” (830) is a p-type transistor. The applicant is requested to point out in the drawing the first, second and third transistors.

Regarding claim 33, the recitation “control input node such that a voltage difference between the control input voltage and an input voltage at the input node is substantially constant during an on condition of the first transmission gate” is indefinite because it is not clear which circuit is in the “on condition” i.e., the transmission gate, the switch circuit or the constant voltage different circuit.

Claims 22-25, 28-30, 32, 34-38 are indefinite because of the technical deficiencies of claims 21 and 33.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 21, 24 and 38-40 are rejected under 35 U.S.C. 102(b) as being anticipated by Singer et al. (6,118,326).

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Regarding claims 21 and 24, figure 4 of Singer shows a transmission gate comprising: a switch circuit (M1), a boost circuit (10), a current source3 (20), a constant voltage difference circuit (S1-S5, Mprotect). The difference between the control input voltage (voltage at node 3) and the voltage (Vin) at the input node is constant (col.8, lines 26-40) when the input voltage is zero volt. The switch circuit is a transistor (Nprotect).

Regarding claims 38-40, figure 4 of Singer shows a method for multiplexing, comprising:

- receiving an input voltage (Vin) at an input node;
- during an off condition, substantially de-coupling an output node from the input node;
- providing a boost voltage (circuit 10); and
- during an on condition:
 - providing a bias current (circuit 20) responsive to the boost voltage; and
 - coupling the input signal to the output node by:
 - responsive to the bias current, providing a control input signal (at node N3) such that a voltage difference between the control input voltage and the input voltage is substantially constant (col.8, lines 26-40) when the input voltage is zero volt; and
 - providing the control input signal to a control input of a switch circuit (M1) that is coupled between the input node and the output node. The voltage difference depends only on the supply voltage, thus the voltage difference is independent over temperature and process.

Allowable Subject Matter

Claims 22, 23 and 25-32 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Claims 33-37 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

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Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hiep Nguyen whose telephone number is (571) 272-1752. The examiner can normally be reached on Monday to Friday from 7:30am to 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Callahan can be reached on (571) 272-1740. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Hiep Nguyen

05-04-05



TUAN T. LAM
PRIMARY EXAMINER